



[7590-01-P]

## **NUCLEAR REGULATORY COMMISSION**

**[Docket Nos. 72-1031, 72-44, 50-528, 50-529, and 50-530; NRC-2019-0161]**

### **Arizona Public Service Company, Palo Verde Nuclear Generating Station, Independent Spent Fuel Storage Installation**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Exemption; issuance.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) is issuing an exemption in response to a request submitted by Arizona Public Service Company on July 5, 2019, for its general license to operate an independent spent fuel storage installation at the Palo Verde Nuclear Generating Station. This exemption would permit the Arizona Public Service Company to load spent fuel with a larger pellet diameter than is authorized in the MAGNASTOR® storage cask system in Certificate of Compliance No. 1031, Amendment No. 7.

**DATES:** The exemption was issued on August 23, 2019.

**ADDRESSES:** Please refer to Docket ID **NRC-2019-0161** when contacting the NRC about the availability of information regarding this document. You may obtain publicly-available information related to this document using any of the following methods:

- **Federal Rulemaking Web Site:** Go to <https://www.regulations.gov> and search for Docket ID **NRC-2019-0161**. Address questions about NRC docket IDs to Jennifer Borges; telephone: 301-287-9127; e-mail: [Jennifer.Borges@nrc.gov](mailto:Jennifer.Borges@nrc.gov). For technical questions, contact the individual listed in the **FOR FURTHER INFORMATION CONTACT** section of this document.

- **NRC's Agencywide Documents Access and Management System**

**(ADAMS):** You may obtain publicly-available documents online in the ADAMS Public Documents collection at <https://www.nrc.gov/reading-rm/adams.html>. To begin the search, select “[Begin Web-based ADAMS Search](#).” For problems with ADAMS, please contact the NRC’s Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to [pdr.resource@nrc.gov](mailto:pdr.resource@nrc.gov). The ADAMS accession number for each document referenced in this document (if that document is available in ADAMS) is provided the first time that a document is referenced.

- **NRC’s PDR:** You may examine and purchase copies of public documents at the NRC’s PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

**FOR FURTHER INFORMATION CONTACT:** Bernard White, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-415-6577; e-mail: [Bernard.White@nrc.gov](mailto:Bernard.White@nrc.gov).

## **SUPPLEMENTARY INFORMATION:**

### **I. Background**

Palo Verde Nuclear Generating Station began operation in 1986 and has been storing pressurized-water reactor spent fuel in its independent spent fuel storage installation since March 2003 utilizing Certificate of Compliance No. 1015 for the NAC-UMS storage system. For the loading campaign commencing in August 2019, Arizona Public Service Company is transitioning to the MAGNASTOR<sup>®</sup> storage system, Certificate of Compliance No. 1031, Amendment No. 7 (ADAMS Package Accession No. ML17013A466). The majority of the spent fuel assemblies to be loaded in the upcoming loading campaign have pellets with a maximum diameter of 0.3255 inches (0.8268 centimeters). While the NAC-UMS system was approved for this pellet diameter in Amendment No. 2 to CoC No. 1015 (ADAMS Package Accession No. ML020250546),

the MAGNASTOR<sup>®</sup> storage system is approved for the nominal pellet diameter of 0.325 inches (0.8255 centimeters), thereby precluding some of the spent fuel at the Palo Verde Nuclear Generating Station from being loaded in the upcoming loading campaign.

## **II. Request/Action**

By application dated July 5, 2019 (ADAMS Accession No. ML19186A449), Arizona Public Service Company submitted a request for an exemption from those provisions of title 10 of the *Code of Federal Regulations* (10 CFR) 72.212(a)(2), 72.212(b)(3), 72.212(b)(5)(i), 72.212(b)(11), and 72.214 that require compliance with the terms, conditions, and specifications of Certificate of Compliance No. 1031, Amendment No. 7, for the Palo Verde Nuclear Generating Station to load spent fuel with a maximum pellet diameter of 0.3255 inches (0.8268 centimeters), utilizing Amendment No. 7 for the NAC International MAGNASTOR<sup>®</sup> storage system.

## **III. Discussion**

Pursuant to 10 CFR 72.7, the Commission may, upon application by any interested person or upon its own initiative, grant such exemptions from the requirements of the regulations of 10 CFR part 72 as it determines are authorized by law and will not endanger life or property or the common defense and security, and are otherwise in the public interest.

The NRC staff prepared a safety evaluation report (ADAMS Accession No. ML19213A033) to document the safety evaluation of the proposed action (i.e., exemption to authorize loading spent fuel with a maximum pellet diameter of 0.3255 inches (0.8268 centimeters)), to assure that the exemption is authorized by law, will protect life or property or the common defense and security and are otherwise in the public interest. As summarized in this document, the NRC's safety review concludes that the requested exemption meets the requirements for issuance in 10 CFR 72.7.

#### **A. The Exemption is Authorized by Law**

This exemption would permit the Palo Verde Nuclear Generating Station to load spent fuel with a larger pellet diameter than authorized in Certificate of Compliance No. 1031, Amendment No. 7.

Section 72.7 allows the Commission to grant exemptions from the requirements of 10 CFR part 72 if the exemption is authorized by law and will not endanger life or property nor the common defense and security. Issuance of this exemption is consistent with the Atomic Energy Act of 1954, as amended, and not otherwise inconsistent with NRC's regulations or other applicable laws. Therefore, issuance of the exemption is authorized by law.

#### **B. Will Not Endanger Life or Property or the Common Defense and Security**

As discussed in the safety evaluation report and summarized in the following sections, the NRC staff has found that Arizona Public Service Company's proposed action is acceptable and will not endanger life or property or the common defense and security.

#### Safety Review of the Requested Exemption

The staff reviewed the exemption request for Palo Verde Nuclear Generating Station and concludes, as discussed in this document, that the proposed exemption from certain requirements of 10 CFR part 72 will not cause the MAGNASTOR<sup>®</sup> storage cask to encounter conditions beyond those for which it has been evaluated and demonstrated to meet the applicable safety requirements in 10 CFR part 72. As explained in this document, the staff's evaluation includes only the criticality safety area of review, since it is the only technical area revised by this exemption.

The licensee submitted an exemption request to deviate from the maximum pellet diameter for Combustion Engineering 16×16 fuel, stored in the NAC

MAGNASTOR<sup>®</sup> dry storage system. The licensee stated that NAC International evaluated a pellet diameter of 0.3255 inches (0.8268 centimeters) in the MAGNASTOR<sup>®</sup> final safety analysis report (ADAMS Accession No. ML091030364), to determine the effect of an upper manufacturing tolerance of 0.0005 inches (0.0013 centimeters) applied to the nominal value of 0.3250 inches (0.8255 centimeters). In that final safety analysis report, NAC International determined that the system k-effective with this larger diameter pellet is statistically the same as the system k-effective with the nominal pellet diameter. Therefore, Arizona Public Service Company stated that its proposed exemption has no effect on the criticality safety of the MAGNASTOR<sup>®</sup> storage system.

The staff reviewed the final safety analysis report and agrees that the proposed change to the pellet diameter will not result in changes to system k-effective that are statistically significant. The staff also agrees that the results of the NAC International criticality analysis, and with the licensee's conclusion that this proposed exemption does not affect the ability of the MAGNASTOR<sup>®</sup> system to meet the criticality safety requirements of 10 CFR part 72.

Based on these evaluations, the staff has concluded that granting this exemption will be consistent with the requirements of 10 CFR part 72 and will not endanger life or property.

Review of Common Defense and Security: Modification of the pellet diameter does not affect the independent spent fuel storage installation security plans. Accordingly, the Palo Verde Nuclear Generating Station independent spent fuel storage installation will continue to be physically protected under Arizona Public Service Company's independent spent fuel storage installation Physical Security Plan to the same level of security.

Based on its review, the NRC staff has determined that under the requested exemption, the storage system will continue to meet the safety requirements of 10 CFR part 72 and the offsite dose limits of 10 CFR part 20 and, therefore, will not endanger life or property. The NRC staff also found that the exemption would not endanger common defense and security.

#### **D. Otherwise in the Public Interest**

In determining whether the exemption is in the public interest, the staff considered the no-action alternative of denying the exemption request. Denial of the exemption request would cause Arizona Public Service Company to postpone loading of spent fuel that contains the larger pellet diameter until it is approved in an amendment for CoC No. 1031 or alternative loading arrangements are implemented.

The licensee stated that the proposed exemption is in the public interest because it would allow Arizona Public Service Company to load spent fuel on schedule, maintain full-core offload capability and would not affect power plant operations or refueling outages for the three units at the Palo Verde Nuclear Generating Station.

#### **E. Environmental Considerations**

The NRC staff also considered whether there would be any significant environmental impacts associated with the exemption. For this proposed action, the NRC staff performed an environmental assessment pursuant to 10 CFR 51.30. The environmental assessment concluded that the proposed action would not significantly impact the quality of the human environment. The NRC staff concluded that the proposed action would not result in any changes in the types or amounts of any radiological or non-radiological effluents that may be released offsite, and there is no significant increase in occupational or public radiation exposure because of the

proposed action. The environmental assessment and the finding of no significant impact was published on August 23, 2019 (84 FR 44339).

#### **IV. Conclusion**

Accordingly, the Commission has determined that, pursuant to 10 CFR 72.7, this exemption is authorized by law, will not endanger life or property or the common defense and security, and is otherwise in the public interest. Therefore, the Commission hereby grants Arizona Public Service Company an exemption from those provisions of 10 CFR 72.212(a)(2), 10 CFR 72.212(b)(3), 10 CFR 72.212(b)(5)(i), 10 CFR 72.214, and the portion of 10 CFR 72.212(b)(11) that require compliance with terms, conditions, and specifications of the Certificate of Compliance No. 1031, Amendment No. 7, for the Palo Verde Nuclear Generating Station to load spent fuel with a maximum pellet diameter of 0.3255 inches (0.8268 centimeters) in the MAGNASTOR<sup>®</sup> storage system using Certificate of Compliance No. 1031, Amendment No. 7.

The exemption is effective upon issuance.

Dated at Rockville, Maryland, this 23<sup>rd</sup> day of August, 2019.

For the Nuclear Regulatory Commission.

**John B. McKirgan,**

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